WATEREUSE ORANGE COUNTY

THANK YOU FOR JOINING US

WateReuse Orange County Chapter Meeting

WILL BEGIN SHORTLY

Agenda

- **Networking & Social Session** – 11:30 AM
- **Call to order** – 12:00 PM
- **Welcome:** Scott Lynch, Chapter President
- **Presentations**
  - **SMWD recycled water overview, Trampas Reservoir & recycled water projects**
    - Tricia Butler, Chief Engineer, SMWD
  - **Recycled water recharge systems & San Juan Capistrano Riding Park case study**
    - Mike Blazevic, Hydrogeologist, SMWD
- **Discussion**
  - **Cross Connection Control Policy Handbook: Group Discussion on comments**
    - Mark Tettemer, Recycled Water Program Manager, IRWD
- **Standing Items**
  - State Section Update: Joone Lopez, MNWD
  - Regulatory Updates: DDW/OCHCA
  - Legislative and Regulatory Matters: Alicia Dunkin, OCWD
  - Potential Funding for Projects
- **Conferences/Webcasts**
- **2023 Officer Elections**
- **Roundtable**
- **Adjournment**

Q&A

Have a question?

Online attendees

Select the “Raise Hand” button or
select *6 on your telephone

In-person attendees

Use the microphone so online attendees can hear you.

We will get to your questions after each presenter.

SMWD Recycled Water Overview, Trampas Reservoir & Recycled Water Projects

Tricia Butler

Chief Engineer, SMWD

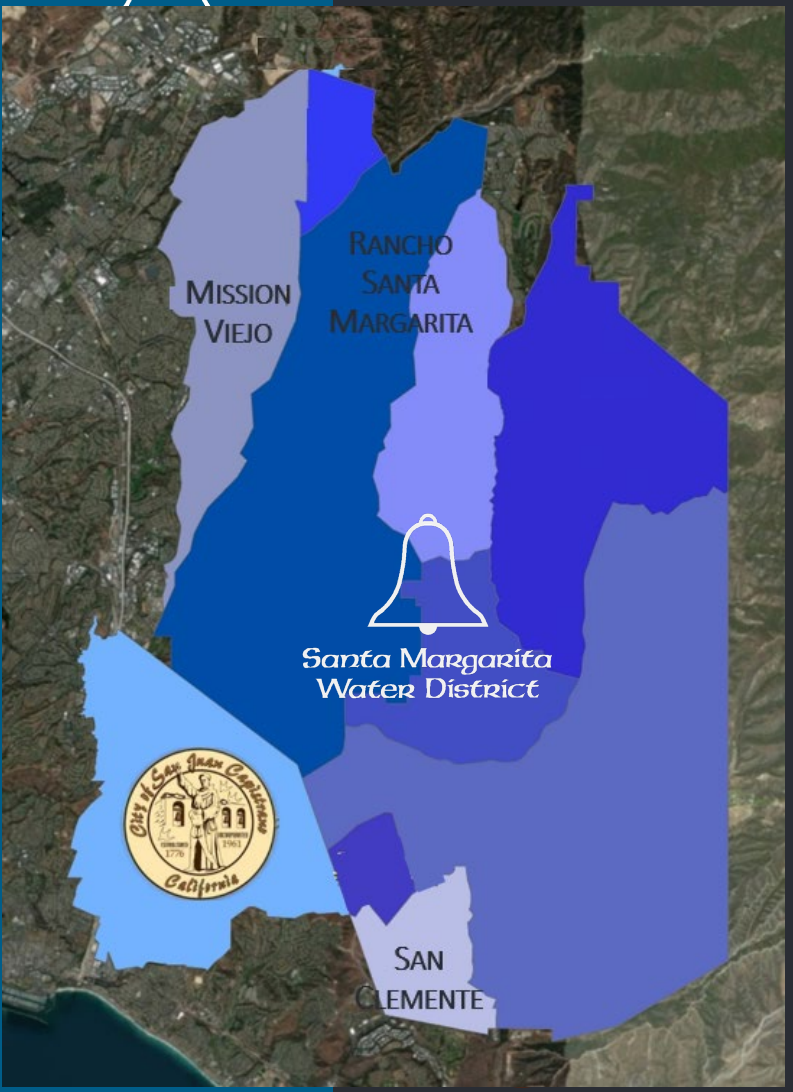
WATEREUSE ORANGE COUNTY

Santa Margarita Water District

LOCAL. RELIABLE. SUSTAINABLE.

WateReuse
December 7, 2022

www.SMWD.com/LasFlores



About Santa Margarita Water District

Serving the community since 1964

Five-member Board of Directors

Drinking Water + Recycled Water + Wastewater

Second largest water provider in Orange County

Over 200,000+ residents in 9 communities

150 facilities, 1,500 miles pf pipelines

SMWD Water Supply

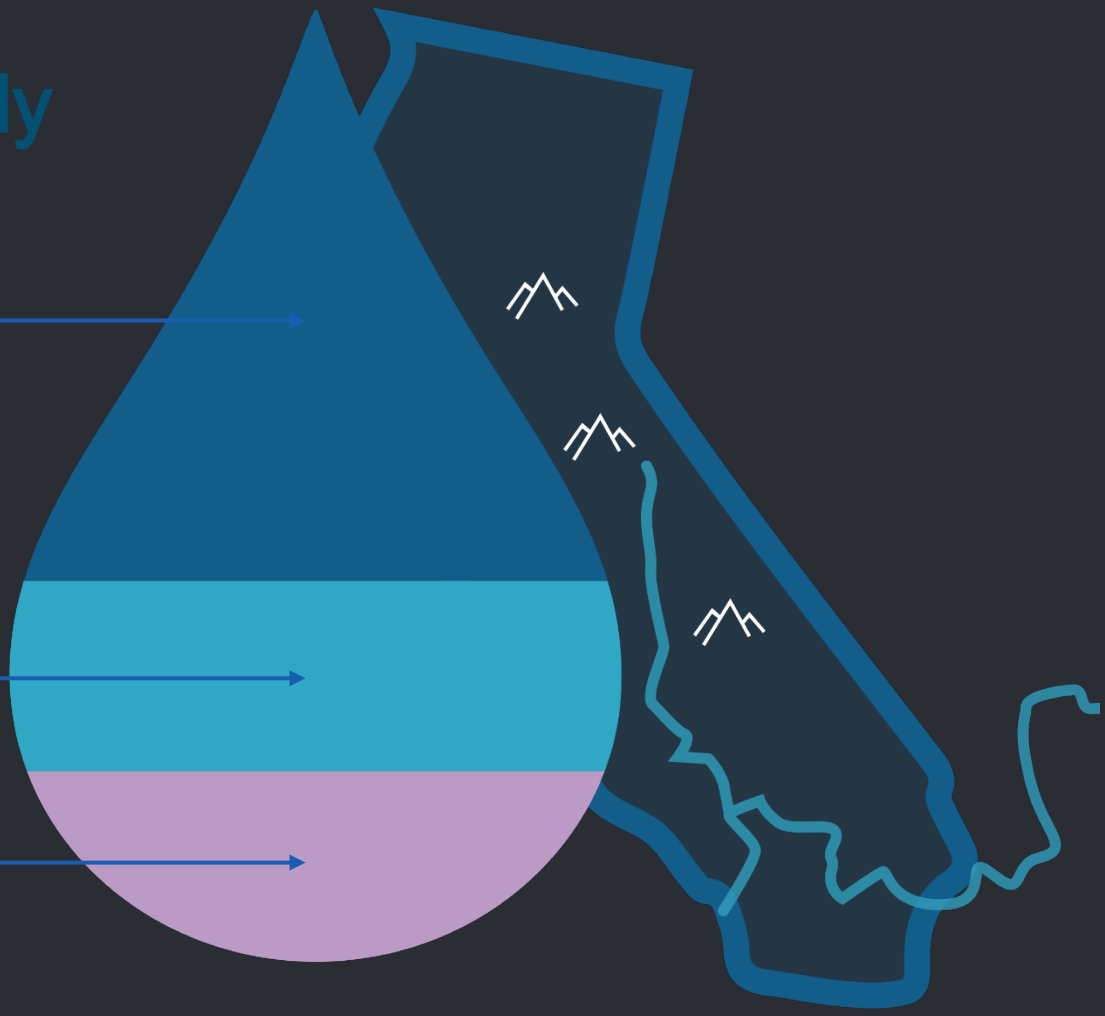
9.8 billion gallons a year

73.4% IMPORTED WATER

5% LOCAL WATER

Addition of San Juan Capistrano

21.6% RECYCLED WATER



Strategic Goals

30% Local Drinking Water Supply

6 Month Supply Emergency Water

Recycle 100% of Wastewater

By 2030

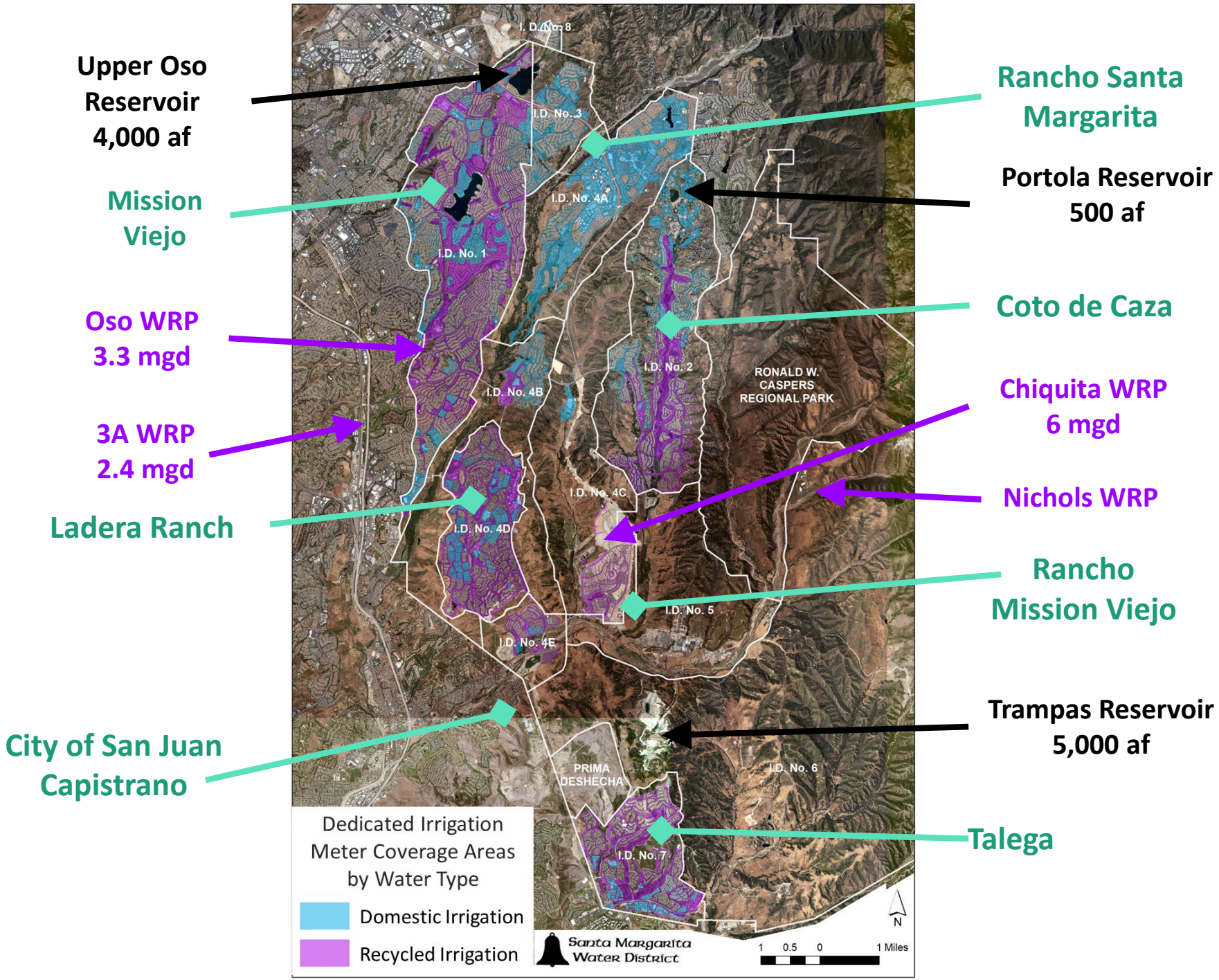
Leading the Way

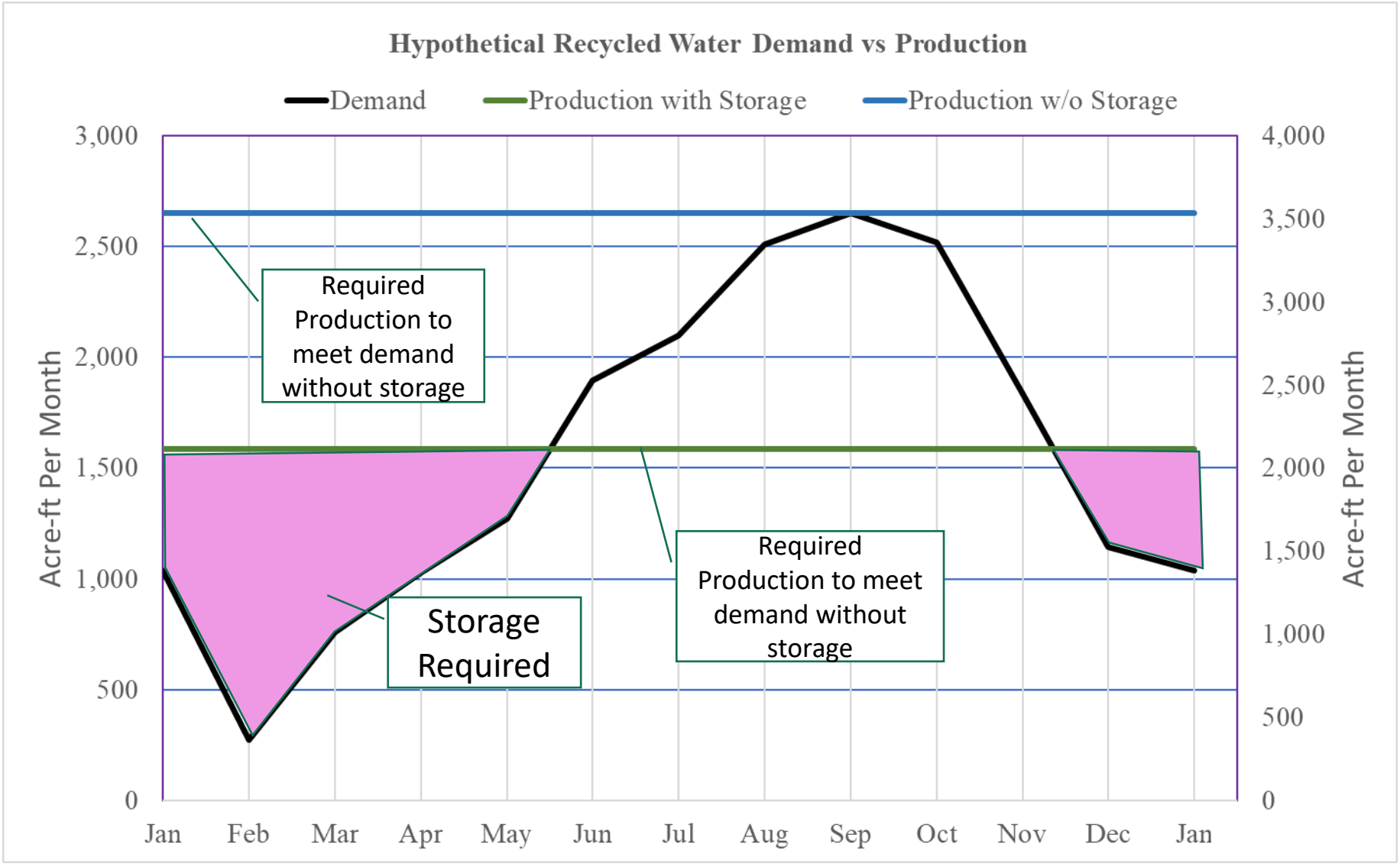
Local. Reliable. Sustainable. Water Supplies

Recycled Water

Energy Production

4 Reservoirs in the last 40 years

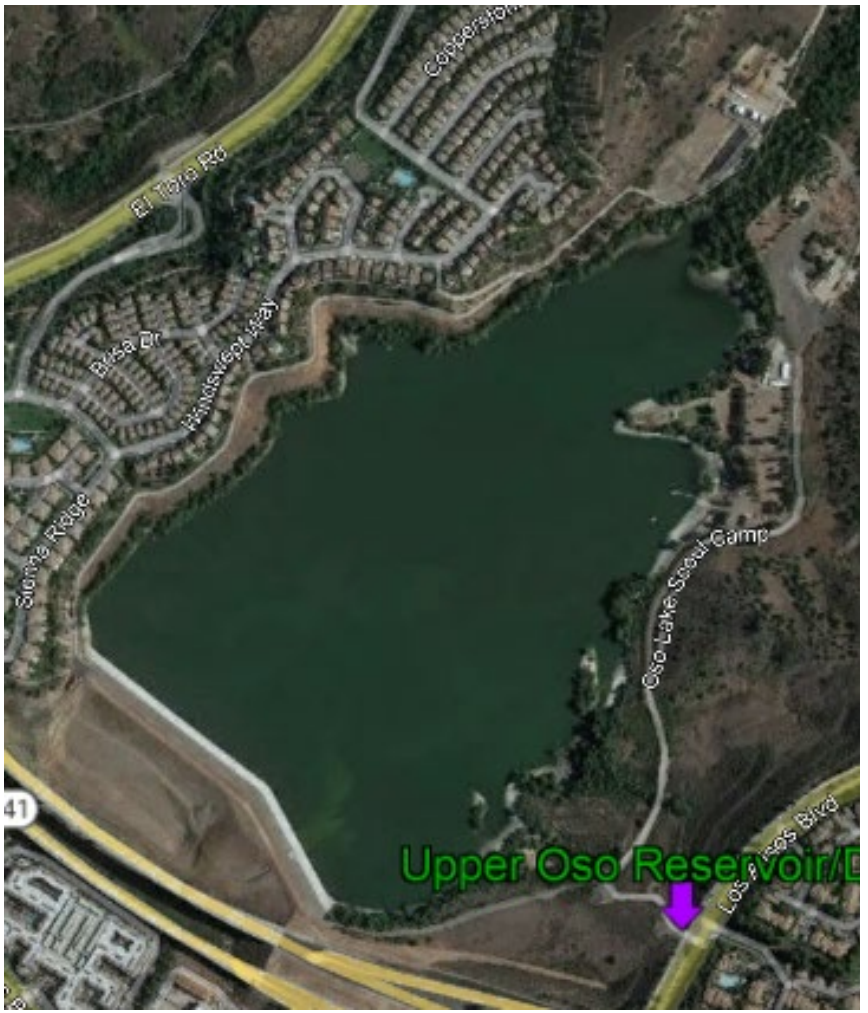

Upper Oso Reservoir 4,000 af
Mission Viejo
Oso WRP 3.3 mgd
3A WRP 2.4 mgd
Ladera Ranch
City of San Juan Capistrano
Rancho Santa Margarita
Portola Reservoir 500 af
Coto de Caza
Chiquita WRP 6 mgd
Nichols WRP
Rancho Mission Viejo
Trampas Reservoir 5,000 af
Talega
I.D. No. 8
I.D. No. 3
I.D. No. 4A
I.D. No. 1
I.D. No. 2
I.D. No. 4B
RONALD W. CASPERS REGIONAL PARK
I.D. No. 4C
I.D. No. 4D
I.D. No. 5
I.D. No. 4E
PRIMA DESHECHA
I.D. No. 6
I.D. No. 7
Dedicated Irrigation Meter Coverage Areas by Water Type
Domestic Irrigation
Recycled Irrigation
Santa Margarita Water District
1 0.5 0 1 Miles
N

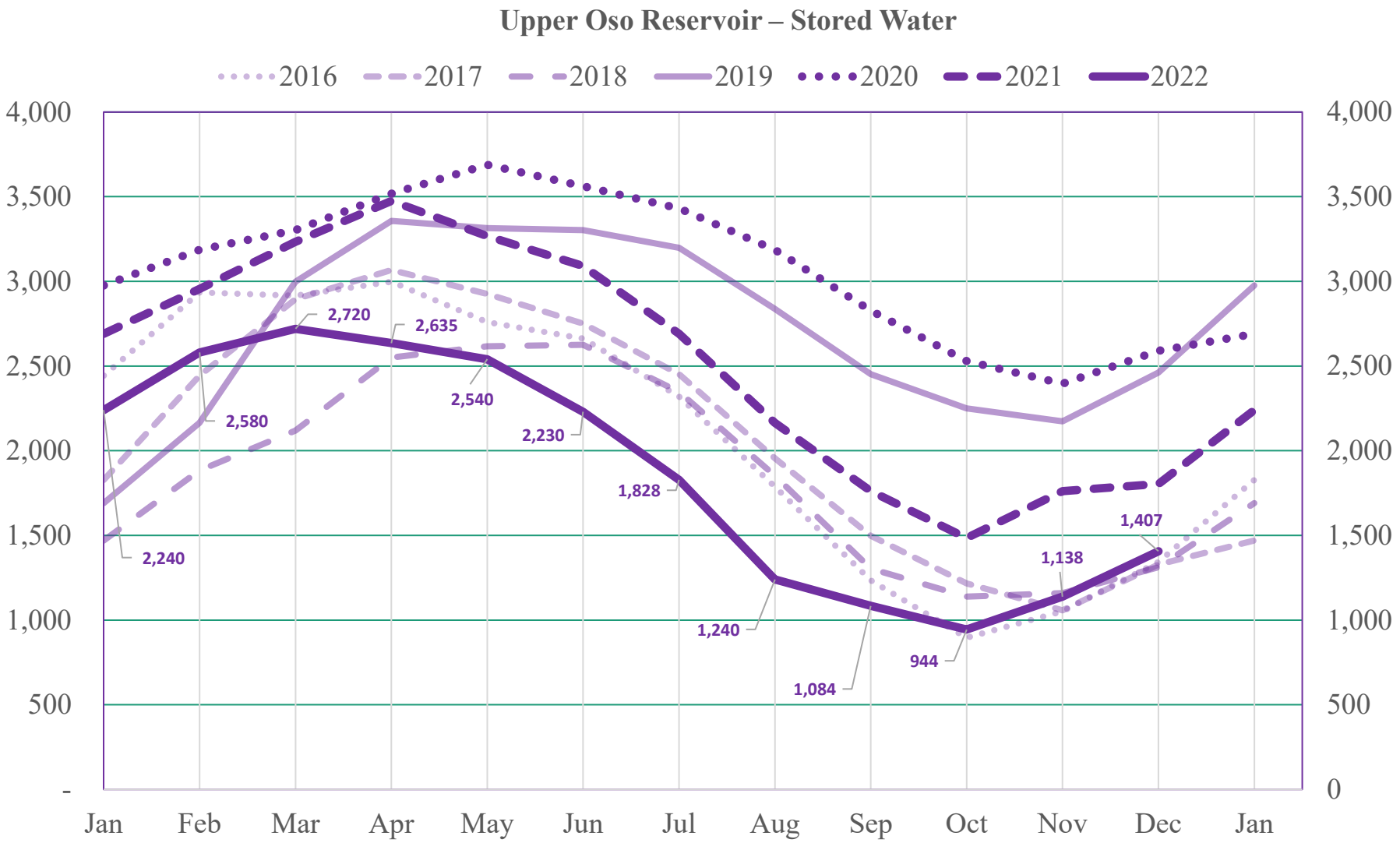

Hypothetical Recycled Water Demand vs Production
Demand
Production with Storage
Production w/o Storage
3,000
2,500
2,000
1,500
1,000
500
0
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Acre-ft Per Month
Acre-ft Per Month
Required Production to meet demand without storage
Storage Required
Required Production to meet demand without storage
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
Month

Recycled Water Storage – Seasonal Storage
Upper Oso Reservoir

Low Level – October 2022

High Level – Circa March/April 2021




Upper Oso Reservoir – Stored Water
2016
2017
2018
2019
2020
2021
2022
4,000
3,500
3,000
2,500
2,000
1,500
1,000
500
-
0
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Oct
Nov
Dec
Jan
2,240
2,580
2,720
2,635
2,540
2,230
1,828
1,240
1,084
944
1,138
1,407

Recycled Water Storage

Daily Storage
Middle Chiquita
(8 Reservoirs
18.4 mg)

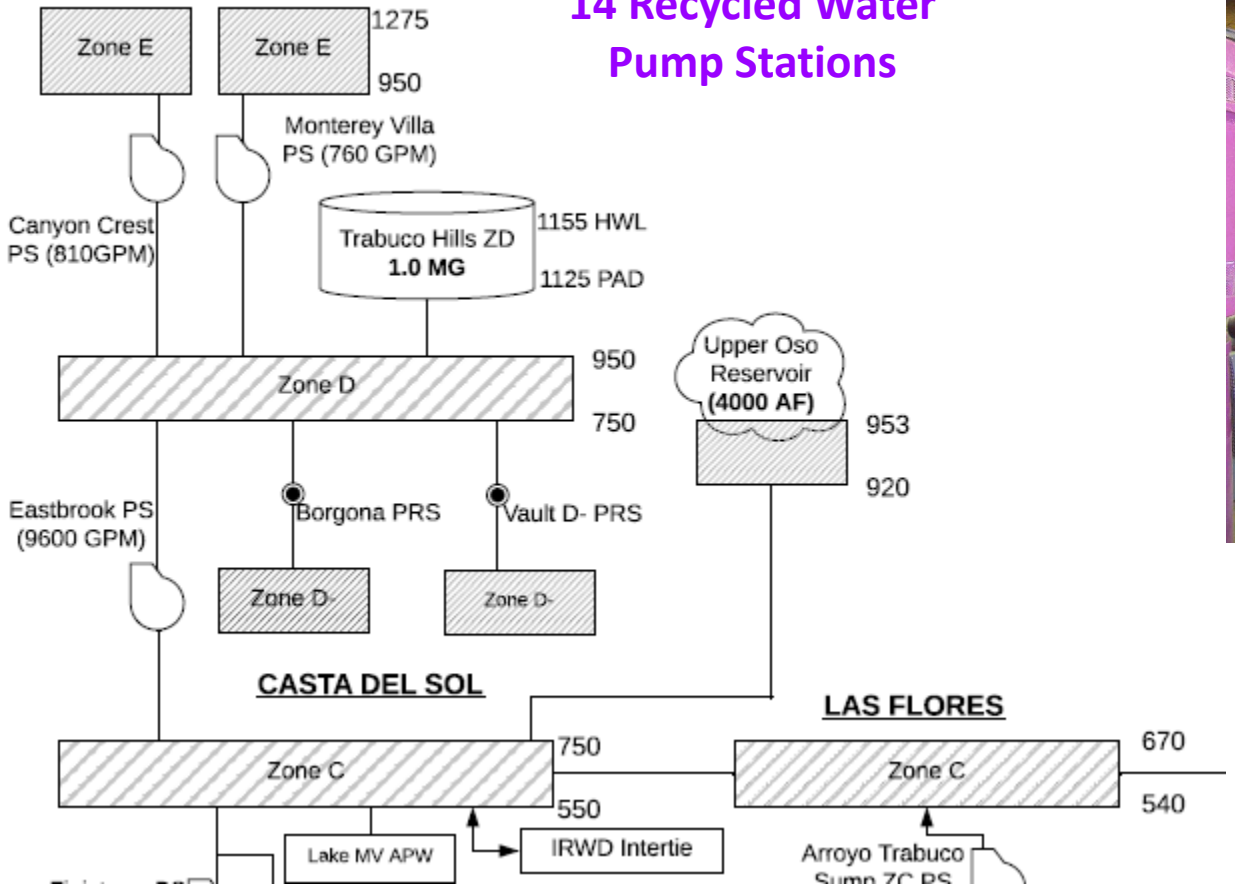
Seasonal Storage
Trampas Reservoir, Upper Oso Reservoir

Urban Return Flows/ Combined Use Gobernadora Basin

Seasonal Storage
Portola Reservoir

Pump Stations to Storage and Closed Loop Systems

14 Recycled Water Pump Stations



SMWD Recycled Water Projects

Recently Completed

- Trampas Reservoir
- Trampas Pump Station
- Las Flores Zone C Conversion
- Conversions – since 2015, HOAs, Mission Viejo and Misc, 500 + acre-ft
- RW Conveyance from San Clemente to SMWD Service Area/Trampas

Under Construction

- Zone A Modifications and Sendero RWPS
- 30-inch Recycled Water Transmission to/from Trampas Gibby Road Bridge to Trampas (RMV)
- Rienda Interim Reservoir (RMV)
- Oso WRP Replacement (Demo, Prep)

SMWD Recycled Water Projects

<u>Under Design</u>

- Oso Water Reclamation Plant
- Las Flores Zone D Conversion
- Las Flores RWPS
- In Collaboration with the City of San Clemente, Recycled Water Quality Improvement Project at the San Clemente WRP

<u>Planning Stage</u>

- Riding Park
- RSM Conversion
  - Storage
  - Pumping
  - Conveyance
  - Conversions
- City of San Juan Capistrano Expansion
- Additional opportunities in progress

Recycled Water Recharge System
San Juan Capistrano Riding Park Case Study

WaterReuse ORANGE COUNTY

December 7, 2022

Santa Margarita Water District

Develop Local Water Sources

Local Groundwater

- Optimize production from the San Juan Groundwater Plant
  - Increase from 2,400 -> 4,800 afy
- Convert RMV MWC to potable water
  - ~2,500 afy

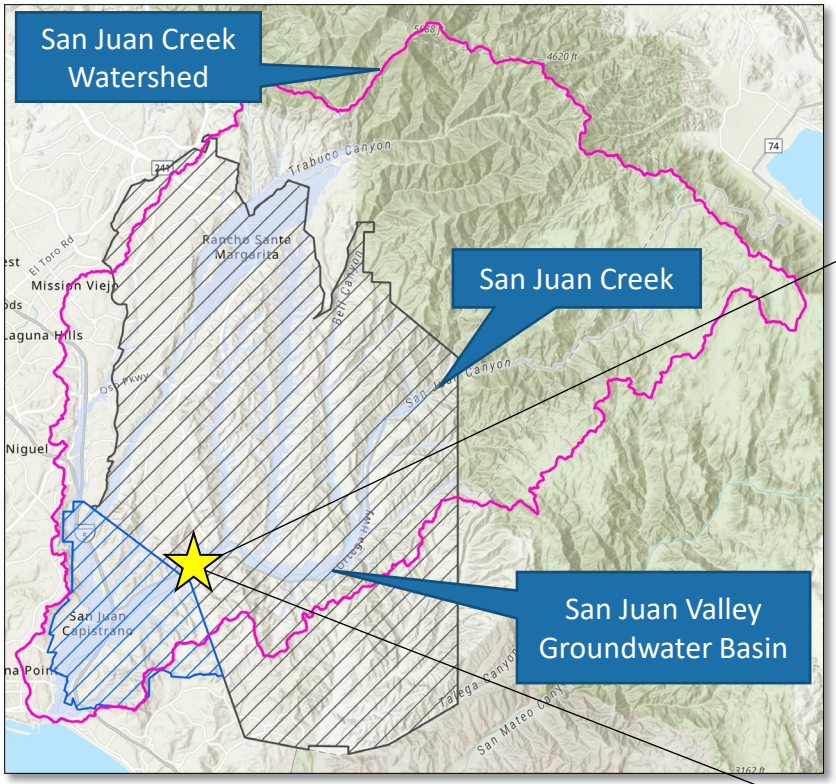
Artificial Recharge

San Juan Watershed Project

- Engineered stormwater recharge
  - ~1,000 afy
- Recycled water recharge
  - ~5,00 afy

Santa Margarita Water District

Riding Park Recycled Water Recharge



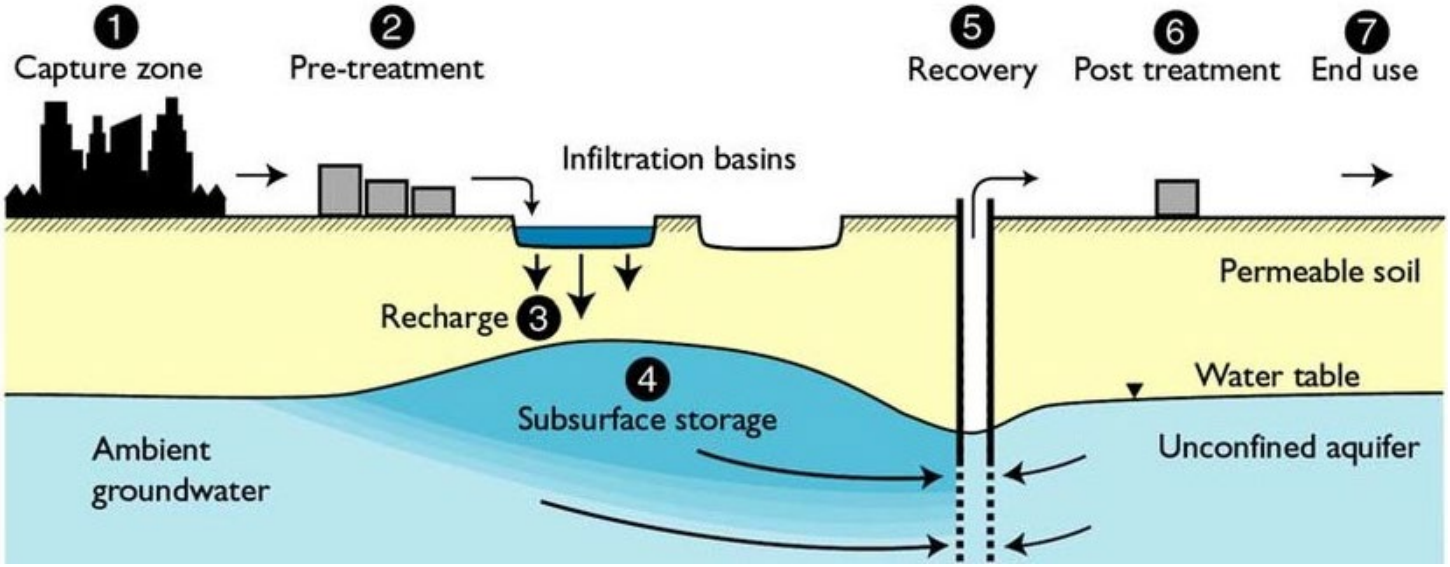
Challenges for Recharge

- Heavily urbanized watershed
- Thin and narrow groundwater basin
- Shallow groundwater table

Santa Margarita Water District

Riding Park Recycled Water Recharge

"Managed aquifer recharge (MAR) is the purposeful recharge of water to aquifers for subsequent recovery or for environmental benefit" (Parker et al., 2022).



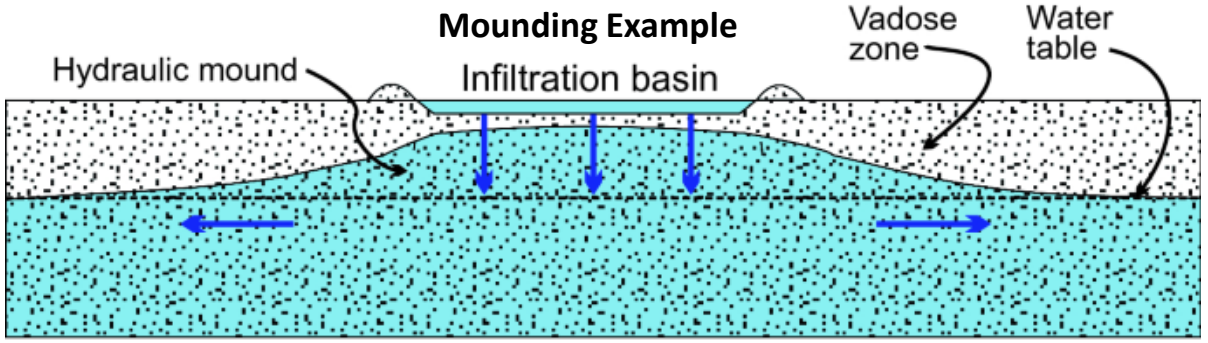
Ward and Dillon (2009)

Santa Margarita Water District

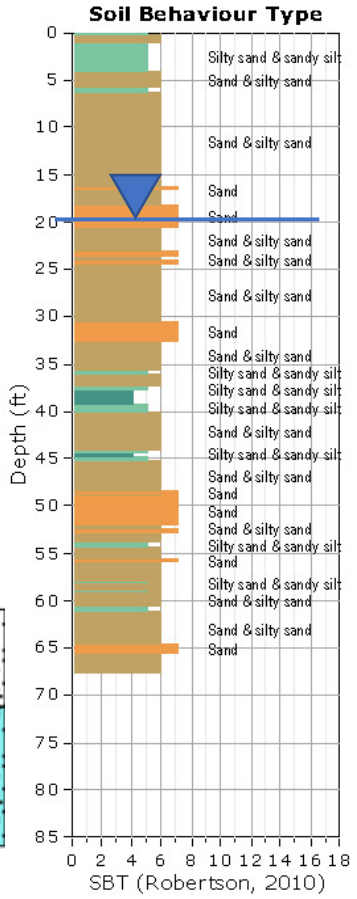
Riding Park Recycled Water Recharge

Project Area Considerations:

- Thin aquifer, but dominated by coarse-grained materials
- Shallow groundwater (15 to 20 ft-bgs)
- Traditional recharge systems may not function as intended
- Current land uses



https://link.springer.com/chapter/10.1007/978-3-030-11084-0_15

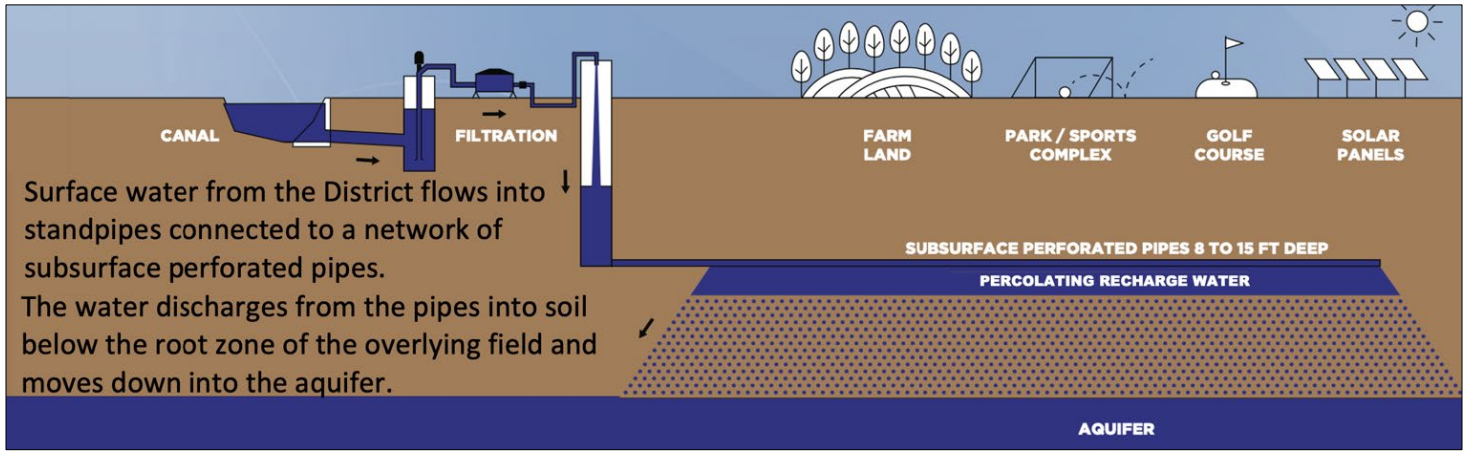


Santa Margarita Water District

Riding Park Recycled Water Recharge

LIDCO INC.

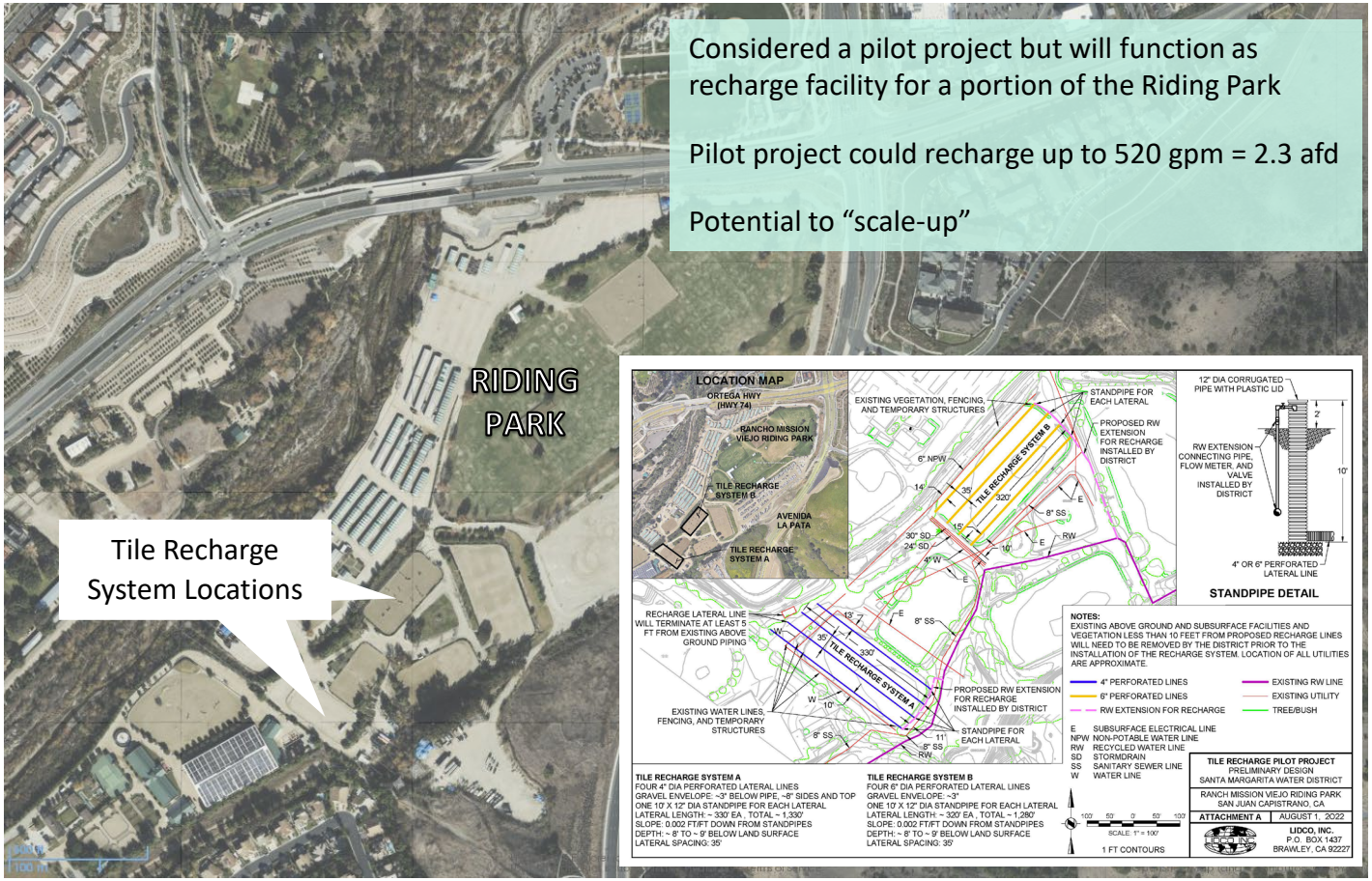
LIDCO Tile Recharge System



- Similar to septic leach field
- Overlying land use is preserved
- Shallow depth installation
- Installation is fast/cost effective

Santa Margarita Water District

Riding Park Recycled Water Recharge



Considered a pilot project but will function as recharge facility for a portion of the Riding Park

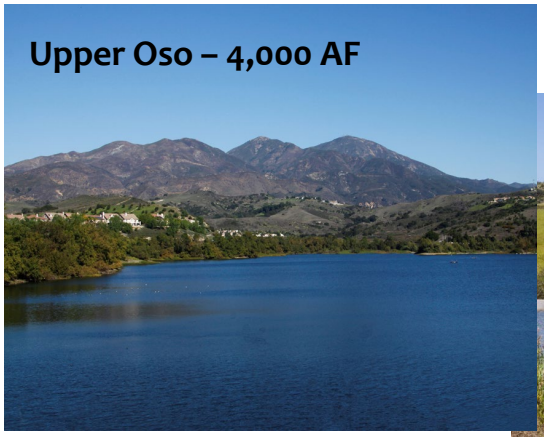
Pilot project could recharge up to 520 gpm = 2.3 afd

Potential to “scale-up”

Integrated Reuse: Another Path to Water Supply

Opportunities
- Maximize Valuable Resource(s)
- Utilize Physical Assets for Multi-Benefits
- Long Term Cost Effectiveness
- Resiliency
- Sustainability

Challenges
- Environmental Constraints
- Regulatory Hurdles
- Cap-X Requirements
- Public Acceptability



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SMWDwater
smwd_SustainaBlu

LOCAL.
RELIABLE.
SUSTAINABLE.

Mike Blazevic
michaelb@smwd.com

Santa Margarita Water District

Santa Margarita Water District

Thank You!

Tricia Butler, Chief Engineer

TriciaB@smwd.com

Michael Blazevic, Hydrogeologist

MichaelB@smwd.com

Q&A

Have a question?

Online attendees

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In-person attendees

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Recycled Water Recharge Systems & San Juan Capistrano Riding Park case study

Mike Blazevic

Hydrogeologist, SMWD

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Cross Connection Control Policy Handbook: Group Discussion on comments

Mark Tettemer

Recycled Water Program Manager, IRWD

Orange County Chapter, WateReuse California

Overview of SWRCB's Draft Cross-Connection Control Policy Handbook

December 7, 2022

Current backflow requirements found in Title 17 of the California Code of Regulations; over 30 years old

Domestic Water Supply Permits require compliance with Title 17

AB 1671 (2017) required SWRCB adopt a Cross-Connection Control Policy Handbook, will replace Title 17

Two public workshops held (2nd workshop last Monday)

Public comments on draft CCCPH due Friday (December 9)

SWRCB staff expects adoption of CCCPH within the next three months

Once adopted, water agencies will have 12 months to submit its written Cross-Connection Control Plan to the SWRCB (Santa Ana office) for review and approval

Title 17 – 6 elements (7 pages)	CCCPH – 10 elements (84 pages)	One-Time Effort vs. On-Going Effort	Resource Impact on Customers/Water Agencies
1. Operating Rules and Ordinances	1. Operating Rules and Ordinances	One-Time	Minor
2. Conduct surveys	2. Cross-Connection Control Program Coordinator	One-Time	Minor
3. Backflow protection	3. Hazard assessments (initial and follow-up) (points to Article 2)	On-Going	Major
4. Trained personnel	4. Backflow prevention (points to Article 3)	On-Going	Generally Minor; Potentially major on fireline services
5. Backflow preventer testing	5. NEW: Certified Backflow Prevention Tester / Cross-Connection Specialists (points to Article 4)	One-Time	To be determined
6. Recordkeeping	6. Backflow preventer testing	On-Going	Minor
	7. Recordkeeping	On-Going	Moderate
	8. NEW: Backflow incident response, reporting, and notification	One-Time	Minor
	9. NEW: Public outreach and education	One-Time/ On-Going	To be determined
	10. NEW: Local entity coordination	One-Time	To be determined

Some issues to consider:

- CCCPH #1: Likely need updating
- CCCPH #3: Approach and frequencies for "follow-up" hazard assessments (e.g. single-family, recycled water, etc.) (Article 3, Section 3.2.1(a)-(h))
  Scope of responsibilities (if meter protection, if internal protection, if auxiliary water use site, etc.)
- CCCPH #3: Designation of a "user supervisor" at premises with "multi-piping system that conveys various types of fluids and where changes in the piping system are frequently made". Water agency to describe "training and qualification requirements for user supervisors, identify the entity that will provide the user supervisor training, and frequency of any necessary recurring training" (Article 3, Section 3.2.2(f))
- CCCPH #3: DC's or RP's (if high-hazard) on all fireline services required, 10 years to comply (Article 3, Section 3.2.2(e))
  - Cost implications
  - Pressure implications
  - Customer analysis of systems
- CCCPH #3: Swivel ells on RW systems allowed (Article 3, Section 3.2.2(d))
- CCCPH #5: Does OCHCA's current tester program meet state standards? If not, will it? If not, what next? (Article 4, Section 3.4.1)
- CCCPH #9: Possible county-wide collaboration opportunity

Possible opportunity for county-wide collaboration on policies and development of Cross-Connection Control Plans

Q&A

Have a question?

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In-person attendees

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Standing Items

- **State Section Update**
  - —Joone Lopez (MNWD)
- **Regulatory Updates**
  - —DDW
  - —OCHCA
- **Legislative and Regulatory Matters**
  - —Alicia Dunkin (OCWD)
- **Potential Funding for Projects**
  - —Funding updates have been transferred to a paid consultant.

https://watereuse.org/wp-content/uploads/2022/10/Summary-of-Funding-Opportunities-as-of-11-01-22.pdf

Upcoming Webcasts, Conferences & Meetings

➢ Webcasts & Conferences

- **WateReuse Annual Symposium** March 5 - 8|Atlanta, GA

➢ Upcoming OC Chapter Meetings

- **February 16 –** MNWD
- **April 20 –** TBD
- **June 15 –** TBD

See www.watereuse.org to register and for more information.

Chapter Bylaws (Officer Elections)

- **Chapter Officers:**
  - President
  - Vice-President
  - Secretary/Treasurer
  - Chapter Trustee
  - *Immediate Past President*
- **Eligibility: Member of the Association**
- **1-Year Term**
- **Nominations**

Chapter Officer Elections 2023

Scott Lynch P.E., President
Jurupa Community Services District

Hannah Ford P.E., Vice-President
El Toro Water District

Kraig Erickson P.E., Secretary/Treasurer
Woodard & Curran

Joone Lopez, Chapter Trustee
Moulton Niguel Water District

Roundtable: What's going on - All

Online attendees

Select the "Raise Hand" button or
select *6 on your telephone

In-person attendees

Use the microphone so online attendees can hear you.

THANK YOU

Meeting Adjourned